What is claimed is:

1. A prosthetic heart valve assembly comprising in combination:

(a) an annular structure having a longitudinal axis, generally cylindrical medial sidewall portions defining a central passageway therethrough, and outwardly flanged terminal rim portions, said side wall portions defining an integral bearing block and a generally diametrically opposed bearing block receiving window;

(b) a separate bearing block for seating in said bearing block receiving window;

(c) said separate bearing block and said bearing block receiving window having cooperating respective perimeter portions whereby said separate bearing block is received within and sealingly engaged within said bearing block receiving window;

(d) said integral bearing block and said separate bearing block each having a flat interior face that has defined therein a pair of circumferentially spaced bearing recesses, said interior faces being parallel to each other and to said longitudinal axis;

(e) groove means defined in said side wall portions adjacent to said bearing block receiving window and circlip means demountably associatable with said groove means for maintaining said separate bearing block seated in said bearing block receiving window;

(f) a pair of leaflets, each one disposed across said passageway, each said leaflet having a generally flattened body portion defined by a perimeter that includes a generally arcuately extending outside edge region, a straight inside edge region, and a pair of outwardly extending, integral, peripherally rounded, ear-like projections, each said ear-like projection being located between a different adjacent pair of said outside edge region and said inside edge region; and

(g) the interrelationship between said leaflets, said annular structure, and said bearing blocks being such that said leaflets are each locatable across a different but adjacent portion of said passageway with each said ear-like projection being pivotably associated with different one recess in each of said bearing blocks and with said leaflets being pivotable responsive to fluid pressure applied on an upstream side of said passageway whereby said leaflets in combination are adapted to extend across and close said passageway and thereby define a valve closed configuration and also to pivot and open said passageway and thereby define valve open configuration.

2. The prosthetic heart valve assembly of claim 1 wherein said annular structure, said separate bearing block, and said leaflets each have surface portions comprised of pyrolytic carbon.

3. The prosthetic heart valve assembly of claim 1 wherein said circlip is comprised of non-rusting spring steel.

4. The prosthetic heart valve assembly of claim 1 wherein, when said leaflets are in said valve closed configuration, said straight inside edge portion of each said leaflet is in adjacent, contacting relationship with the other, and said arcuately extending outside edge region of each said leaflet is in adjacent contacting relationship with a different interior side wall portion of said annular structure whereby said passageway is substantially closed.

5. The prosthetic heart valve assembly of claim 1 wherein the extent of pivotal opening and closing movement of each said leaflet is limited by the internal configuration of each said recess and wherein each said recess has internal wall-like portions against which facial portions of the associated said ear-like projection abut at the limit of closing and of opening pivotal movement of said ear-like projection.

6. The prosthetic heart valve of claim 1 wherein said separate bearing block and said bearing block receiving window are associated with locating pin means which cooperatively associate with one another to position and locate said separate bearing block relative to said receiving window.

7. A prosthetic heart valve assembly comprising in combination:

(a) an annular structure having a longitudinal axis, generally cylindrical medial sidewall portions defining a central passageway therethrough, and outwardly flanged terminal rim portions, said side wall portions defining at one location thereof an integral, radially thickened bearing block portion having a flat interior face that extends across said portion of said passageway and that extends parallel relative to said longitudinal axis, and said side wall portions also defining at a generally diametrically opposed location relative to said integral bearing block portion a bearing block receiving window having window perimeter edge portions that are radially inclined;

(b) a separate bearing block for seating in said bearing block receiving window, said

separate bearing block having radially inclined block perimeter edge portions that are configured to matingly engage with and seat against said window edge perimeter portions when said bearing block is inserted into said bearing block receiving window from an exterior location relative to said annular structure, said separate bearing block having a flat interior face that extends across said portion of said passageway, perpendicular to said longitudinal axis, and also parallel to said flat interior face of said integral bearing block portion when said separate bearing block is so seated in said bearing block receiving window;

(c) said window perimeter portions further having groove means defined therein located adjacent to said separate bearing block perimeter edge portions when said separate bearing block is so seated against said window edge perimeter portions, and

(d) a circular circlip for positioning in said groove and for retaining said separate bearing block in association with said annular structure when said separate bearing block is so seated in said bearing block receiving window;

(e) a pair of leaflets, each one disposed across said passageway, each said leaflet having a generally flattened body portion defined by a perimeter that includes a generally arcuately extending outside edge region, a straight inside edge region, and a pair of outwardly extending, integral, peripherally rounded, ear-like projections, each said projection being located between a different adjacent pair of said outside edge region and said inside edge region;

(f) said flat interior face of each of said integral bearing block portion and said separately formed bearing block having defined therein a pair of circumferentially spaced but adjacent cavities; and

(g) the interrelationship between said leaflets and said cavities in said assembly being such that said leaflets are each locatable across a different portion of said passageway with each said ear-like projection being pivotably associated with different one cavity in each of said separate bearing block and said integral bearing block portion and with said leaflets being responsive to fluid pressure applied on an upstream side thereof whereby said leaflets in combination are adapted to extend across and close said passageway and thereby define a valve closed configuration and also to pivot and open said passageway and thereby define valve open configurations.

8. The prosthetic heart valve assembly of claim 7 wherein surface portions of said annular structure, said separate bearing block and said leaflets are each comprised of pyrolytic carbon.

9. The prosthetic heart valve assembly of claim 8 wherein said circlip is cross-sectionally circular.

10. The prosthetic heart valve assembly of claim 8 wherein said circlip is comprised of non-rusting spring steel.

11. The prosthetic heart valve assembly of claim 7 wherein, when said leaflets are in said valve closed configuration, said straight inside edge portion of each said leaflet is in adjacent, contacting relationship with the other, and said arcuately extending outside edge region of each said leaflet is in adjacent contacting relationship with a different interior side wall portion of said annular structure whereby said passageway is substantially closed.

12. The prosthetic heart valve assembly of claim 11 wherein, in said valve closed configuration, said straight inside edge portion of each said leaflet is configured to seat against the other.

13. The prosthetic heart valve assembly of claim 11 wherein, in said valve closed configuration, said arcuately extending outside edge region of each said leaflet is configured to seat against adjacent side wall portions of said annular structure.

14. The prosthetic heart valve assembly of claim 7 wherein peripheral edge portions of each of said ear like projections and interior surface portions of each of said cavities each have spherical curvatures and wherein adjacent edge portions of each of said ear like projections is matingly engageable with the respective associated one of said cavities whereby each said ear-like projection is freely pivotable relative to the associated said cavity.

15. The prosthetic heart valve assembly of claim 14 wherein the extent of pivotal opening and closing movement of each said leaflet is limited by the internal configuration of each said cavity.

16. The prosthetic heart valve assembly of claim 14 wherein each cavity has internal wall-like portions against which facial portions of the associated said ear-like projection abut at the limit of closing and of opening pivotal movement of said ear-like projection.

17. The prosthetic heart valve assembly of claim 7 wherein said separate bearing block and said bearing block receiving window each have a generally rectangular perimeter configuration.

18. The prosthetic heart valve assembly of claim 7 wherein in regions thereof adjacent to said bearing block receiving window said annular structure is radially thickened.

19. The prosthetic heart valve assembly of claim 7 wherein said separate bearing block and said bearing block receiving window are associated with locating pin means which cooperatively associate with one another to position and locate said separate bearing block relative to said receiving window.

20. A method for fabricating the prosthetic heart valve assembly of claim 1 comprising the steps of:

(a) forming in a blank for said annular structure said bearing block receiving window with window perimeter portions;

(b) forming about a blank for said separate bearing block perimeter portions that are cooperatively engageable with said window perimeter portions whereby said blank for said separate bearing block is seatable within said bearing block receiving window;

(c) forming groove means in said blank for said annular structure that are adjacent to said bearing block receiving window and associating circlip means with said groove means, whereby said blanks are associated together in a combination;

(d) machining surface regions of said combination whereby;

- a flat interior face is defined upon said blank for said separate bearing block,

- said integral bearing block is defined in said blank for said annular structure with a flat interior face for said integral bearing block that is in spaced, parallel relationship to said flat interior face of said separate bearing block,

- each of said flat interior faces is parallel to a longitudinal axis defined in said annular structure; and

- each of said flat interior faces has defined therein said pair of spaced bearing recesses, thereby to form said annular structure and said separate bearing block;

(e) said circlip means is dissociated from said groove means and said separate bearing

block is separated from said annular structure while said ear-like projections of each of said leaflets are pivotably each engaged with one said bearing recess in each said bearing blocks; and

(f) said separate bearing block is reengaged with said window and said circlip means is reassociated with said groove means, thereby to fabricate said prosthetic heart valve.